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Psychosocial aspects of the suicidal attempts of Polish females

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The aim of the study is to detect the potential socio-demographic and clinical risk factors of repeated suicide attempts among toxicological inpatients. The investigation assessed 150 females ranging in age from 18 to 79 years (mean age = 36 years). Subjects were treated in the Department of Toxicology of Collegium Medicum, Jagiellonian University for suicidal drug overdose between March 2000 and February 2001.
The examinations were conducted with the use of a structured interview schedule and on the basis of hospital case history. Subjects were also administered several tests and psychological questionnaires including the Beck Depression Inventory (BDI), the Hamilton Depression Rating Scale (HDRS), the Beck Hopelessness Scale (HS 20), the Suicidal Intent Scale (SIS), Antonovsky's Sense of Coherence Questionnaire (SOC 29) and the Life Events Scale by Holmes and Rahe. The clinical group was divided into two sub-groups: one which comprised females after the first suicide attempt (I). The second group consisted of females who had repeated a suicide attempt (II). Mean age in both sub-groups was 36 years. All subjects resided in a major metropolitan area. In comparison to group I (first time female attempters), group II (after repeated suicide attempts) included a greater percentage of females who held primary education and were either unemployed, retired, divorced, or the heads of single-parent families. Moreover, in the group of females after repeated suicide attempts (II) the frequent detection of alcohol dependence, depression, personality and behavioural disorders, history of psychiatric treatment and suicides in family was evident. The low level of coherence correlated with depression and sense of hopelessness was characteristic for these subjects.

Key words: females, repeated suicide attempts, clinical and demographic factors

Introduction

The empirical literature indicates that suicide attempts are made more frequently by females (particularly adolescents) than by males [1,2]. The increasing number of suicide attempts among young females might be indicative of an increasing social maladjustment [3, 4, 5, 6, 7].

According to data published by the World Health Organization (WHO), ca. 1300 suicides are committed each day worldwide, and another 10.000 suicides are attempted. In recent years, Poland has witnessed a significant increase in the number of successful suicides, which is cause for suspect that the number of attempted suicides has also significantly increased [8, 9, 10].

In contrast to successful suicides, the number of suicide attempts is often unknown due to lack of data in medical and police reports [8, 10, 11]. Most authors accept the notion that the relation between the number of successful suicides and that of suicide attempts is1:10. Results published by WHO place this ratio slightly lower: 1:15 [10, 12]. According to Ringel [13], one of the pioneers in the study of suicide and the author of the concept of "pre-suicidal syndrome", a suicide is not a sudden reaction but a prolonged process of accumulation of traumas leading to personality changes.

Discussing the importance of mental disorders in formation of suicide indices, Pużyński [11] indicates a high proportion of individuals suffering from emotional and behavioural disorders. Based on the professional literature, the author considers severe depression, guilt, sense of hopelessness, low self-esteem, anhedonia, chronic anxiety and fear, insomnia as well as suicidal thoughts and intentions as recognized suicidal risk factors in depression. Moreover, chronic somatic disorders that coexist with pain ailments were frequently identified in individuals who committed suicide. This also includes chronic sleep disturbances as well as drug and alcohol abuse.

Alcohol dependence is one of the most frequently diagnosed psychological disorders among suiciders. Beck's prospective follow-up study indicates alcoholism as being an important predictor of repeated and successful suicide attempts [4, 14].

Contrary to the pathogenic approach, Antonovsky [15], developed an innovative approach to health and illness known as salutogenesis. The author contends that the key role is played by the sense of coherence consisting of three components – comprehensibility, manageability and meaningfulness. According to Antonovsky, the sense of coherence is an independent variable that is on a continuum and is somewhat fixed on the threshold of maturity. In Antonovsky's opinion, individuals with a strong sense of coherence cope with problems better than those with a weak sense of coherence. They choose a coping strategy that corresponds best with a given stressor, and if they are unable to solve the problem, they are able to adjust themselves to the situation, thus experiencing less suffering. However, when the world is perceived as arduous, chaotic and paralysing, the chances of solving the problem decrease. If the suicide attempt is a cry for help by someone unable to cope with their problems, then most likely the individual endangered with suicide attempts will probably manifest a weak sense of coherence.

Socio-demographic factors are recognized risk predictors of successful suicide [2, 6, 7, 16, 17]. For many years numerous authors have indicated environmental and social factors such as financial and occupational difficulties (most frequently connected with unemployment), isolation from the environment, loneliness and family conflicts [2,5,18]. Although suicidal death regards every individual separately, according to Jarosz [2] it has a definite social aspect as well as clear social basis and conditioning.

Instruments and methodology

The aim of the work was to undertake detailed investigations in order to distinguish socio-demographic and clinical risk predictors for the initial suicide attempts as

well as repeated attempts, and to assess the sense of coherence as a potential risk factor for repeated suicide attempts.

We designated Group I – for subjects who experienced their initial suicide attempt and Group II – for subjects who experienced repeated suicide attempts. The examinations were conducted with the use of an interview, analysis of hospital records and several psychodiagnostic tests and clinical questionnaires, i.e. Beck Depression Inventory (BDI), Beck Hopelessness Scale (HS 20), Suicidal Intent Scale (SIS), Hamilton Depression Rating Scale (HDRS), Sense of Coherence Questionnaire (SOC 29) by Antonovsky, and Life Events Scale by Holmes and Rahe [4, 5, 14, 15, 19].

The analysis of severity of intoxication (divided into three stages: severe, moderate and light) was conducted according to the Poisoning Severity Score (PSS) used in clinical toxicology (21).

Beck Depression Inventory –BDI (5) is a 21-item self-report inventory. Each symptom is described by four alternative statements which are rated in terms of severity from 0 to 3. The ratings are usually summed to yield a total score that can range from 0 to 63.

Hopelessness scale –HS-20 (5) consists of 20 true and false statements which measure the extent of negative expectancies about the future. Each of the 20 items is assigned a score of 1 for a pessimistic orientation and score of 0 for a non-pessimistic orientation. The total score is calculated by adding the 20 items and it can range from 0 to 20.

Suicidal Intent scale - SIS (5) was employed to evaluate the severity of the patient's suicidal intention by taking into account the attempter's behavior and attitudes before, during and after his or her suicidal act. It is a 15-item scale designed for administration by a trained clinician during a semi-structured interview. All of these items are scored on 1- or 2-point rating scale for severity, and the scale is usually scored by adding the ratings for the 15 items. The total scores can range from 0 to 30.

Hamilton Depression Rating Scale -HDRS includes all the basic traits of endogenous depression and selected traits of psychogenous depressions. The items are scored on 3 or 5-point rating scale. There are two versions of HDRS, comprising 21 or 24 traits. The criteria for assessment are defined precisely.

Sense Of Coherence Questionnaire –SOC 29 (2) comprises 29 questions connected with various aspects of life. Each question is assigned 7 possible answers. The questionnaire measures the sense of coherence, which is a variable consisting of three correlated components: comprehensibility, manageability and meaningfulness. A high total score signifies a strong sense of coherence.

Life Events Scale (19) is based on the presumption that there is a connection between important events in an individual's life and his or her psychological condition during a period of up to two years following the event. The scale comprises a list of events classified as stressful, each of which is assigned a definite number of scores, which are known as units of life change. The scale is scored by adding the ratings for each event. The maximum score after adding all the units of life change can amount to 1513.

Results

Table 1 indicates the age of the female subjects examined ranging from 18 to 79 years; the mean age was 36 years. Table 2 represents the demographic data connected with the location of residence, marital status, level of education, employment and sources of financial support for the examined population.

Table 3 describes the histories of psychiatric treatment of the examined population of females and presents data concerning cases of suicide in the subjects' closest surroundings.

Assessing the severity of intoxication in the examined population, we found that slight level of poisoning was detected in 57% of the patients, moderate – in 36% and severe in 6.1% of the patients. On admission to the hospital, 47% of the examined subjects revealed no conscious disturbances, 35% manifested clouding of consciousness, and 17.5% were unconscious. Presence of ethyl alcohol in the blood profile on admission to hospital was detected in 25% of the examined population. The analysis of the compared groups showed that the proportion of individuals who imbibed alcohol during the suicide attempt was higher among females after a repeated attempt: 21% and 33% respectively.

Table 4, consists of score results of the applied scales and questionnaires. The BDI index differentiating the severity of depression in the examined females was 22.8 scores in Group I and 29.0 scores in Group II. The results on the Hamilton Depression Scale (HDRS) showed a similar tendency in the examined population (Group I – 21.5; Group II – 28.5 points). The "Hopelessness" scale, HS 20, did not reveal any differences between the two examined groups. The results obtained on the Beck Suicidal Intent Scale did not differentiate between the examined groups either.

Mean results on the Sense of Coherence Questionnaire, SOC 29 were 113.8 scores in Group I and 100.5 scores in the group of females after repeated suicide attempts. As can be seen in Fig. 3, this difference was statistically significant at $p < 0,05$. The relation between results on the Beck Depression Scale (BDI) and the Sense of Coherence Questionnaire (SOC 29) is displayed in Fig. 1. The negative correlation equals: $r = -0.56$. A similar correlation is shown in the histogram in Fig. 2 revealing the dependence between the Hamilton HDRS index and Antonovsky's SOC 29 results. This correlation equals: $r = -0.38$ ($p < 0,05$). The scores on the Life Events Scale are high, but they do not differentiate between the examined groups.

Discussion of results

The aim of the study was to detect the potential socio-demographic and clinical risk factors of repeated suicide attempts in a population of females subsequent to suicidal drug overdose [6, 7, 16, 20, 21, 22, 23].

The results obtained in this study regarding socio-demographic and clinical factors correspond with the results obtained by Jarosz, Hołyst and Pużyński [2, 8, 11]. These investigators claim that the probability of suicide is increased by definite demographic elements (sex, age, marital status) as well as personality traits such as the low ability to adjust to changing conditions.

Hołyst [8] evaluates the growing tendency of suicide indexes also from the point of view of demographic factors such as marital status, level of education, crisis situations, and family relations. Having compared the data provided by the aforementioned author with the current results, we find that both the types of factors, and their intensity are similar.

In this study, the population of 150 women was divided into two groups – one subsequent to initial suicide attempt and the second after a series of suicide attempts. In both groups, the average female attempting suicide was 36 years of age, resided in a large metropolitan city, possessed primary education, was either unemployed or received disability pension, often divorced, living alone with her children. In the second group we detected more frequently the presence of alcohol dependence, depressive disorders, personality and behavioural disturbances, a history of psychiatric treatment and successful suicides among close relatives.

The low level of sense of coherence correlated with depression and helplessness [6, 11, 14, 15, 24, 25]. Overall, in the initial group (I), subjects obtained 112 scores while the result for Group II was even lower and amounted for 99 scores. Comparison of these results reveals a statistically significant difference. In addition, the levels of the sense of coherence (measured by SOC 29 questionnaire) revealed a statistically significant correlation with the results of depression level examination on the Beck Depression Scale (BDI) and the Hamilton Depression Scale (HDRS) as well as with the sense of hopelessness measured by the HS-20 scale.

With regard to the research conducted by Antonovsky [15] who examined various groups of healthy individuals (citizens of Israel, blue-collar workers of the State New York, American undergraduate students, Military School students in Israel, health service personnel in Israel and in Edmonton, industrial health service personnel in Scandinavia), we must state that the results obtained by the patients after suicide attempts by drug overdose examined in our study proved to be significantly lower.

With regard to the studies on the sense of coherence conducted in Poland, the research of Habrat, who analysed 45 patients suffering from endogenous depression, deserves special attention. Subjects examined achieved a level of coherence ranging from 103 to 116 scores (mean score ca. 110 scores). The control group (healthy individuals) (40 males and females) obtained results of ca. 133 scores [11, 18, 24].

Another interesting study on the sense of coherence in individuals with mental disorders was conducted in Warsaw by Mroziak and Czabała [26, 27]. The results of their investigations indicated that the level of the sense of coherence was the lowest in the group with the highest level of psychopathology (in depressions 99.3 points, and in neuroses 108 scores). In healthy individuals (as the norm in Polish population) the mean results in SOC-29 were 139 scores.

In a study conducted by Petrie and Brook [25], the low level of SOC-29 and, first of all, of its two components: comprehensibility and manageability, i.e. ability to influence the world and one's own fate, proved to be a predictor of repeated suicide attempts by patients hospitalized after an attempted suicide.

The results of our study also correspond with the works by Beck et al. [4, 6, 11, 12,14, 17, 22, 25], who conducted five and ten years long follow-up studies analysing

risk factors of repeated suicide attempts. Results indicate alcoholism and unemployment as significant predictors of successful suicide risk. Consequently, we are convinced that further studies on risk predictors of repeated suicide attempts in females may prove of great importance in the broad understanding of suicide prevention.

Conclusions

The obtained data allow us to draw the following conclusions:

As in the case of successful suicides, socio-demographic factors are significant risk predictors of suicide attempts. The present work indicates that in the population of individuals attempting suicide, the major group consists of females who are unemployed or receive disability pensions, with low level of education, experiencing family problems. Many of them are divorced and live alone with their children.

Among the distinguished clinical factors of a potential threat of a repeated suicide attempt, the most important are: alcohol used during the attempt, alcohol dependence, depressive disorders, personality and behavioural disturbances, history of psychiatric treatment, and suicides among close persons.

The extremely low scores in the SOC-29 questionnaire in the group of patients after suicide attempts allow us to infer that individuals with a lower level of sense of coherence are more inclined to perceive chaos in a difficult situation and react to it with sense of hopelessness, helplessness, depression, and in extreme situations – with suicide attempts.

The obtained results justify initiation of prospective follow-up investigations to verify the hypothesis about stability of the level of sense of coherence in time. The results of this study may allow for the determination of a relation between a low /weak/ sense of coherence and a repeated suicide attempt.

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DEMOGRAPHIC DATA

Table 1

Age of the population examined, consisting of 150 females hospitalized in Toxicology Clinic CM UJ in Cracow between 03.2000. and 02.2001

Age of the females examined	I gr N-102	II gr N- 48	All N - 150	P
range	18–79	18–56	18–79	
mean	36,8	35,9	36,5	>0.05
SD	14,3	11,7	13,4	

Table 2

Demographic data of the female subjects examined

Variables	data	I group N - 102 %	II group N -48 %	All N -150 %	P
Place of residence	main city of the region	72,4	77.0	73,9	
	other city	7,9	8,4	8.0	
	village	18.8	14.6	17.4	
	homeless	0,9	-	0.7	
Who does the subject reside with?	family of origin	33,0	31,9	33,0	
	procreational family	46,8	44,7	46,1	
	alone	8,5	2,2	6,0	
	with children only	11,7	21,2	14,9	
Marital status	single	40.5	37,3	39,0	
	married	51,5	43,7	49	
	divorced	4,0	12,7	7,3	
	widowed	4,0	6,3	4,7	
Education	elementary / technical	41.4	52,3	45,1	
	secondary	42,6	30,9	38,7	
	university	16	16,8	16,2	
Employment	unemployed	25,2	30,7	26,8	
	employed	25,1	12,6	21,3	
	social support	25,5	36,0	29,6	
	self-employed	2,2	2,6	2,3	
	no date	22	18,1	20	

Table 3

Clinical data of the female subjects examined

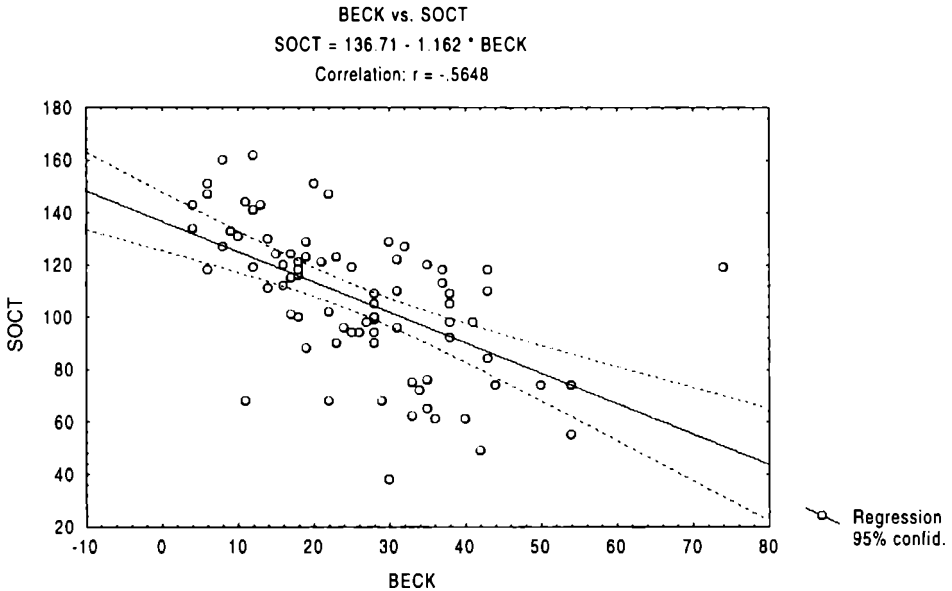
variable	data	I group N %	II group N %	All N %	P
Psychiatric treatment history	Untreated	53,8	9,3	36,1	
	Hospitalized	6,1	16,2	10,1	
	Outpatient treatment	36,9	41,8	38,8	
	Outpatient treatment and hospitalization	3,0	32,5	14,8	
	No data	0,2	0,2	0,2	
Suicides among close relatives or friends	Stated	10,5	27,7	15,5	
	Question unanswered	30,7	16,7	27,0	
	No data	58,8	55,6	57,5	
Final psychiatric diagnosis	Organic brain disorders	4,4	2,6	3,8	
	Schizotypical disorders	3,3	12,8	6,1	
	Affective disorders	15,2	30,1	19,8	
	Reactive depression	76,1	61,5	71,7	
	Personality and behavioural disturbances	17,5	25,6	19,8	
	Alcohol dependence	8,7	12,8	9,9	

Table 4

Score results of the psychodiagnostic questionnaires in the examined population of females

Questionnaire		I group	II group	All	P
BDI Total N	range	1-74	2-54	1–74	
	mean	22,8	29	24,9	
	SD	12,6	14,1	13,4	
HRDS Total N	range	4–43	5–50	4–50	
	mean	21,5	28,5	23,7	
	SD	9,9	12,3	11,2	
HS 20 Total N	range	0–20	0–20	0–20	
	mean	10,3	9,5	10,0	
	SD	10,3	6,1	5,9	
SIS Total N	range	0–26	1–28	0–28	
	mean	10,5	12,8	11,2	
	SD	6,5	6,6	6,6	
SOC 29 Total N	range	49–179	55 – 151	49–179	
	mean	113,8	100,5	108,6	
	SD	28,2	28,5	28,9	<0,05
L E S Total	range	49–1042	88–769	49–1042	
	mean	367	386	376	

Figure 1 **The scatter range with a 95% section of trust; relationship between Beck Depression Inventory scores and SOC–29 scores**



The correlation ratio r = - 0,56.

Figure 2 **Correlation between Hamilton Depression Rating Scale scores and SOC–29 scores – apparent linear correlation. The correlation ratio r = - 0,38**